COMMUNITY PLANNING

Review Revue

CANADIENNE D'URBANISME

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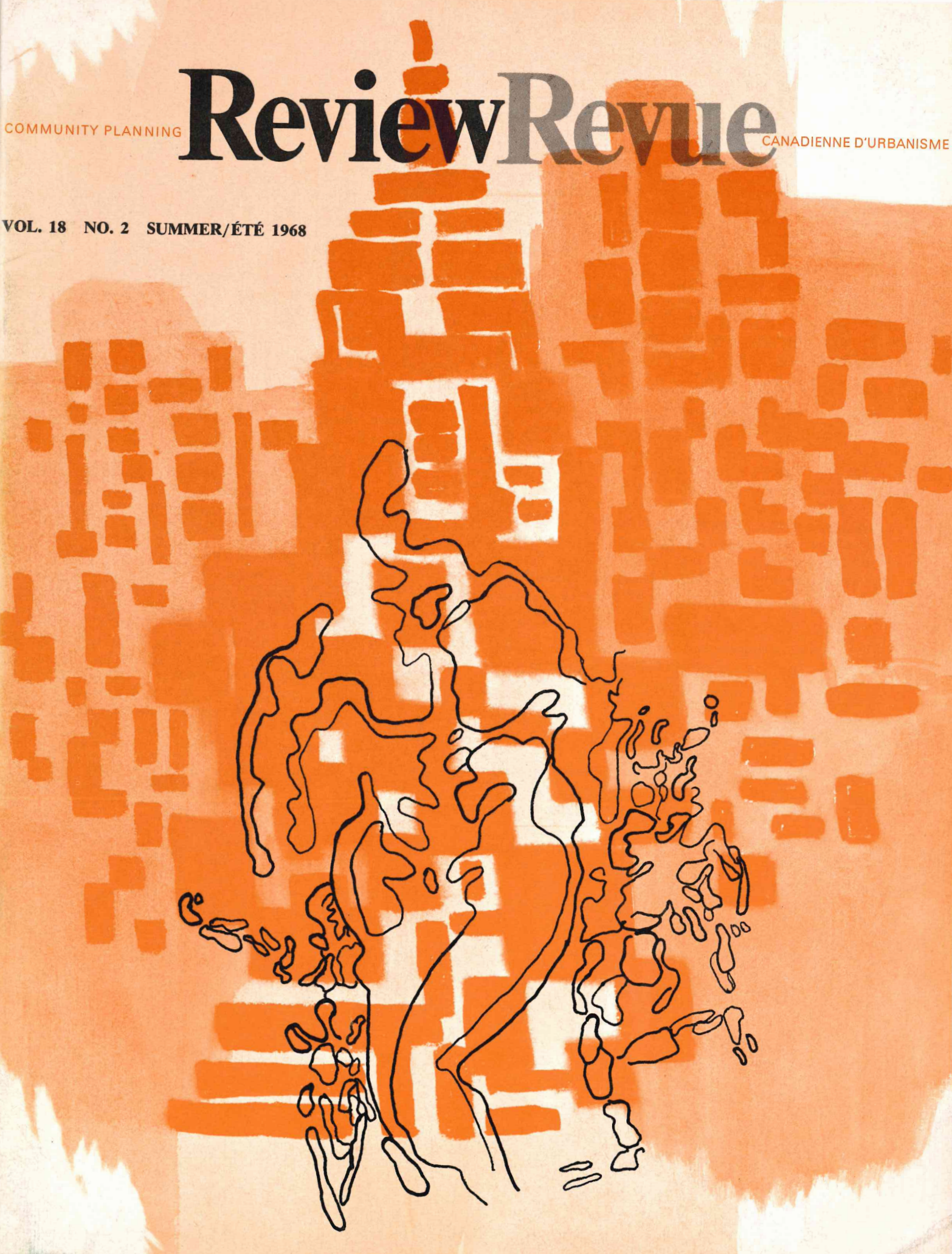

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COVER COMMENT
How would you illustrate the theme of CPAC's 1968 National Planning Conference: "Building Human Values Into the Community"? 15-year old Drew Paton, a Grade 11 student in an Ottawa high school, visualized it this way.

COMMENTAIRE SUR NOTRE COUVERTURE
Quel serait votre façon d'illustrer le thème de la Conférence Nationale d'Urbanisme de l'A.C.U. pour 1968: "L'Épanouissement de Valeurs Humaines dans la Communauté"? Un étudiant de 11ième année dans un high school d'Ottawa, Drew Paton, âgé de 15 ans, la visualise de cette manière.

The President's page

LAST FALL the Annual General Meeting of CPAC adopted an important resolution submitted by the British Columbia Division. The resolution reads as follows:

RESOLVED
that the Community Planning Association of Canada strongly urge federal and provincial governments and their crown corporations, together with regional and metropolitan governments, to co-operate with local planning authorities on matters concerning location, design and erection of public buildings, utility structures, including roads and bridges, and other senior government developments.

Living on the East coast of Canada, I am not as familiar as perhaps I should be with the particular causes of frustration of the local planning authorities on the other coast, but I suspect that their problems are not unique in North America. The truth is that everywhere in Canada enlightened citizens, many of whom are members of CPAC, are now conscious, as they never were before, of the total environmental impact of the public buildings and utility structures, which were once accepted without question by grateful local residents.

This growing consciousness of the human values in our local communities which can so easily be harmed, or even destroyed, by a single badly designed or badly located structure puts us on the alert when we seem to discover that those who govern us are not equally sensitive to the needs of human beings. There can be few active Branches of CPAC that have not, at some time in their history, felt the urge to write a strong, condemnatory letter to some government official.

I would suggest that it might be well if Branches and Divisions of CPAC, to the extent that it is humanly possible, would resist the temptation to send off complaining letters to Ministers of the Crown. As a great national citizen's organization, devoted to the cause of better planning throughout Canada, CPAC can surely develop and implement more effective techniques throughout its organization to impress governments with the need "to improve the quality of the environment in

which people live" than by simply writing strong letters to government leaders. My short point here is that there is obviously more than one way to "strongly urge" governments.

The source of the problem of the local "planners" with our senior governments has really nothing to do with the failure of those governments to recognize the need to plan our communities. Indeed, these very governments are constantly urging local governments to plan better. The problem is that most government officials are no different from most engineers, developers, industrialists and entrepreneurs – they are all of them "single-purpose planners."

The menace of single-purpose planning to the achievement of a quality environment for human living has been revealed in a convincing article, "The Fallacy of Single-Purpose Planning" by the American writer, Harold Gilliam.* Mr. Gilliam's article is of particular significance to CPAC because the writer makes us aware of how helpless even our senior governments are, at the moment, to prevent the harm to human beings which single-purpose planning inevitably causes.

In his article, Mr. Gilliam explains that the term *single-purpose planning* does not imply that the planners close their eyes completely to all other considerations, but that they subordinate other considerations to the predominant or intended purpose of the immediate project. . . . Single-purpose planning calculates only the immediately intended effect of proposed projects; it fails to account for the total environmental impact." And as if he were elaborating on the newly stated objective of CPAC, or was writing in support of the resolution of our Annual General Meeting, Mr. Gilliam writes this: "A human being needs fresh air and clean water, space and beauty, the opportunity not only for exercise and rest in quiet surroundings but for stable social relationships. He needs to consider his work worthwhile and to participate in decisions that affect his community. If any single structure is subversive of these purposes, it is a bad structure, no matter how efficient or well-designed it may be from a single-purpose standpoint."

Useful as it is for a CPAC member to be reminded once again, albeit in a most forceful way, of the extent to which single-purpose planning is frustrating the achievement in Canada of a quality environment for human living, it is even more useful to learn from Mr. Gilliam that there are positive steps which must be taken if we are to help our governments successfully create environments for human living.

*Daedalus, Fall, 1967.

The Department of Highways is, of course, an obvious example of a single-purpose governmental agency which possesses the power to do great damage to the best laid plans of local planning bodies. This is because its function is "not safeguarding social and environmental values but moving traffic." It is not due to "perversity or malfeasance" that the highway engineer appears to ignore the damage to social values which his works often bring about. He just does not have the training or experience to be able to evaluate, for example, the effect of freeways on "recreational, aesthetic, ecological, social-welfare, or urban-planning patterns." Having pointed this out, one, but only one, of Mr. Gilliam's proposed solutions to this kind of problem is "to require that all single-purpose agencies whose work has an environmental impact include staff members professionally trained in environmental matters – ecology, landscape design, recreation, social relations, or economics." "Environmental values," Mr. Gilliam points out, "would thus be brought into each agency's planning from the beginning. . . ."

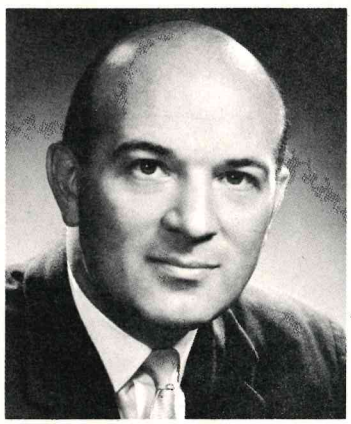
Now, it seems to me that the kind of insight that Mr. Harold Gilliam brings to bear on the real cause of so much bad planning by governmental, as well as other agencies, is most suggestive to us in CPAC that we, too, must develop an acute awareness of the difficulties confronting our governments faced with these problems. The task of educating first ourselves and then our governments in just how we are to achieve our ideal of multi-purpose planning is indeed a great one. Even the first small step of persuading our senior governments to employ many more staff members professionally trained in environmental matters will require real effort. But this is now the kind of effort which we in CPAC must be prepared to make if we are to be successful in preventing the single-purpose plans of any government department from harming the quality of the environment in which people live. Positive steps of this sort can surely do more to enhance the name of CPAC throughout the country than letters of complaint to government departments, however well intentioned.

R. Graham Murray, Q.C.,
National President, CPAC.

THE CONCERNED MAJORITY:

By ALBERT ROSE, Ph.D.
Professor
University of Toronto
School of Social Work

Dr. Rose is an honorary life member of the Community Planning Association of Canada, a former chairman of CPAC's Ontario Division (1952-56) and a former member of CPAC's National Council. This article is an edited version of his address to the 1968 annual conference of the Grocery Products Manufacturers of Canada in Toronto.



HISTORY will record that around 1960, after 15 years of the greatest economic boom the Western nations have ever known, the leaders of the two most affluent nations, the United States and Canada, officially discovered the existence of poverty. Seven years later a few of our most affluent writers made the same discovery, with expressions of shock and outrage similar to those of some politicians.

To social scientists, of course, the fact that poverty exists in the midst of plenty is very well known. In our attempts to describe a standard of living as modest but adequate and sufficient to maintain health, dignity and self respect, we have found that its components cost somewhat more than the average wage prevailing in leading industries. Indeed, the cost of an adequate standard of food, clothing, shelter, medical care, recreation, education, insurance, transportation and miscellaneous items customarily exceeds the average industrial wage by as much as 25 per cent.

Recently a well-publicized Canadian writer* has attempted to identify the cause of poverty and has pointed the finger squarely at a group which apparently includes most people in the upper third of the income distribution; most people with a higher education; most people who have achieved some degree of economic and social success in this nation within the past quarter-century; most people who hold official positions within government, public agencies, voluntary services, business and labor. In short, most Canadian leadership has been indicted as "a smug minority".

* Pierre Berton, "*The Smug Minority*", McClelland and Stewart Ltd., Toronto, 1967.

I challenge this identification of cause and this labelling of the so-called favoured few. Rather, I contend that almost the entire Canadian population and certainly most of those who are not poor, by any description within the modern industrial affluent society, are greatly concerned about the economic and social problems that afflict our nation, that afflict particularly those who do not seem to possess the essential elements which make it possible for them to participate in the growth and development of our society.

I submit, then, that we are "the concerned majority", a large group of Canadians who have come to realize that the problems involved in meeting the economic and social challenges of the last third of the 20th century are extremely difficult; and this includes the challenge of poverty itself among the lowest fifth or quarter of the population, whatever the proportion may be.

The Canadian government's response was the creation of a Special Planning Secretariat within the Office of the Privy Council, whose major role would be that of co-ordinating the efforts of various federal departments in encouraging a better utilization of human resources, social security benefits and other devices to upgrade the economic and social position of those who were not within the mainstream of the affluent society. In Canada no official forefinger was pointed at some locus of responsibility for the condition of the disadvantaged and there appeared to be a frank recognition of the difficulties involved.

There have already been several carefully reasoned forecasts of the economic position of Canadians throughout the next two or three decades; there has

A Reaction to "The Smug Minority"

been no similar essay into the nature of the society in which Canadians will live and work during these next three decades and no real forecast of the balance between individual and social responsibility that will be essential if Canada is to emerge as a full-fledged modern society.

It now seems apparent that Canada's population boom following the war has run its course and that, unless very special measures are taken to attract millions of newcomers, particularly from Asiatic countries, our population in the year 2000 will fall perhaps 10,000,000 short of the 40,000,000 estimate (derived through extrapolating the findings of the Royal Commission on Canada's Economic Prospects 1955-1980). The present emphasis on the very young and the very elderly will be changed as a result of a substantial decline in the birth-rate, now evident since 1960, and a continued aging of the population.

URBAN-ORIENTED POPULATION

Since two major forecasts of economic development have been based in substantial measure upon a long-term continuance of the birth and fertility rates of the years 1944-59, the recent reversal of certain major demographic tendencies in Canada (a trend accelerated, not started, by "The Pill") is an event of tremendous potential significance. The conclusion that there are "fashions" in population growth, just as there are fashions in so many other aspects of urban living, is inescapable. The common denominator seems to be "urban living" rather than marriage and a large family.

As I see the Canadian family and its living pattern within the society of the next 30 years, I visualize a small family of one or at most two children, with both parents working and thus pooling a very substantial family income, particularly where both are well educated and perhaps members of professional groups. This affluent small Canadian family of the 1970's and thereafter will want to live as close as possible to the heart of the modern metropolis, close to the financial and cultural institutions, close to the centres of education, and the like.

What this family will want, and what will be developed in due course for thousands like it, will be a new form of environment for multiple dwelling in which, within the building, the child will be raised within day care centres, nursery schools, recreational facilities, and play space. Only in this way could both parents go out to work every day and pursue their independent or inter-dependent careers. With the income available to them they could afford to pay for the very best and the very best will mean a family environment within a multiple dwelling.

These buildings, as I contemplate them, will be much larger than anything we have known before – perhaps 40 or 50 storeys high and with all the facilities of a small town within two or three large structures including, perhaps, an attached building for social and recreational purposes. But, one may say, the child will never see the ground, except for a short walk to the automobile for a Sunday afternoon drive. Yet it may be answered, "What does it matter?" What is there on the ground? Traffic jams and air pollution! May the child miss both!

The position of older people in the society is probably the most difficult to predict. The number who will be over 65 years of age in 2000 A.D. will be enormous in the light of current experience, and might well rise to 10-12 per cent of total population from the present 8½ per cent. It is anticipated that a larger proportion will be independent of their children in view of favourable economic prospects.

The modern Canadian metropolis is already becoming a concentration of urban-oriented people who provide services for other people rather than produce goods for other people to consume. By the end of the century four-fifths of us will be urban dwellers.

In the modern "service-centered metropolis" of the last three decades of the 20th century, emphasis will be placed upon the more advanced educational programmes of the so-called professional schools, and a whole host of ancillary programmes which will develop in the community colleges, the polytechnical institutes and the universities, to provide Canadians with a closer approximation of the great numbers of counsellors they will require for more effective living in the society to come.

INCOME AND LIVING STANDARDS

In 1967 Canadians, who numbered nearly 20½ millions, produced goods and services with a total market value of some $62,000,000,000. Even if the objective for all Canadians over the next 30 years was merely the maintenance of an identical per capita annual income, Canada's gross national product would have to exceed 100 billions by the year 2000 under any reason-

"It will be increasingly difficult and unpleasant to be poor . . . however,

able set of assumptions concerning population growth.

This is, of course, an absurd objective to contemplate. Our ambition would certainly be far greater than the mere maintenance of the number of dollars per person. But it does result in an estimate that is perhaps the lowest possible forecast that could be made. If our objective were merely the maintenance of per capita income, this would imply a substantial reduction in the Canadian standard of living for most of the population.

A more intelligent objective would consist of the attainment for the typical Canadian family of a per capita income that would permit an increase in its standard of living of about 3½ per cent per annum, or roughly, an increase of 100 per cent during the 32 years under consideration. To obtain this objective, in the face of many forecasts that the general price level will increase by at least 3 per cent per annum compounded, per capita income would need to rise by at least 6 and more likely 7-8 per cent each year.

The requirement for a rising standard of living in which all Canadians would enjoy an appropriate share of their increased productivity implies that Canada's gross national product must reach at least 150-175 billions by the year 2000. In the light of what we know already about the nature of employment and income in an affluent industrial society, it is clear that there are as many grounds for pessimism as there are for an optimistic view of our chances of reaching the objective just cited.

The early forecasts of impending unemployment and serious under-employment accompanying the introduction of automation in Western industrial nations has not been borne out in practice. The more optimistic social and economic observers have concluded from this experience, particularly during the 1960's, that the fears once held for the impact of automation upon employment were groundless. Nothing could be further from the truth.

In this society in which industrial processes are increasingly automated it may be that "work" will more and more become a privilege rather than a right, and the whole question of providing a sufficiency of income will assume far greater importance than in the past 20 years. We hear more and more about such concepts as "guaranteed annual income" and the "negative income tax". It must be emphasized that all these concepts require the identification and adoption of a level of living appropriate to an individual or a family in our society. The question of financing such income policies is equally a matter of raising the revenues and determining the standard of living below which we would wish no family to fall. Taxation policies may make it more difficult to attain the underlying social objectives of a modest but adequate standard for all citizens.

The Canadian-born Harvard economist, John K. Galbraith, has argued that our affluent society has a responsibility to see that as many of its members as possible can not only survive but can live decently and with dignity. Our difficulty in accepting a radical concept like the guaranteed annual income is a further reflection of the problem that all of us have faced through the nearly 25 years since the end of the Second World War: the fact that we live in a radical economic technology in which social technology is distinguished by its conservatism rather than its radicalism.

MEETING POVERTY IN THE LATE 20TH CENTURY

It must be evident that it will continue to be increasingly difficult and unpleasant to be poor in the kind of Canadian society that can be seen emerging for the 1970's and thereafter. In his major work, "The Affluent Society", Galbraith argued that this was the first time in history that most people within a specified national economy (or, if you will, within the Western industrial nations) were not poor. He pointed out that poverty existed in the United States and, for that matter, in Canada in two major forms: insular poverty and case poverty. The term "insular poverty" is used to describe areas of serious underdevelopment in the midst of an otherwise affluent nation: for example, Appalachia in the United States and the north-east counties of New Brunswick or the south shore of the Gaspe in Canada. "Case poverty" was Galbraith's term for the individual who suffered from some disability or set of disadvantages in this modern society which prevented him from participating fully in the mainstream of economic development.

In the 120 years of Canadian and American history ending with the close of the First World War the existence of poor people in any community, in a village or a small town, was generally considered normal and perhaps even natural. There were some poor families on every street and in every neighbourhood. Those who were self-supporting were for the most part not so well off that they considered the disadvantaged or deprived families as "beyond the pale" or somehow or other reprehensible. There was much more tolerance of human weakness, of physical and emotional incapacity to maintain oneself and one's family in the midst of a rapidly changing society, and I venture to say that there was more compassion than has been displayed during

he mere expenditure of vast amounts of money is not the answer".

the past 40 or 50 years. Today it is extremely hard for the poor person or poor family to break out of the vicious cycle of poverty in which their children have every reason and every opportunity to develop the same characteristics, the same culture of poverty as their unfortunate parents. Poverty has now become known to the social and health services through as many as three generations of the same family.

WHAT CAN BE DONE?

Under the circumstances the major question before us is not, "Who is responsible?" Nor is the answer, "The smug minority!" But a much more significant question remains, "What can be done about it, so that every individual and every family in Canadian society will make its proper contribution to the total product and to the well being of all members, so that they will share commensurately in the expanding product and in the growing material and non-material standard of living available?" The answers to this question are perhaps the most difficult to obtain within our entire set of social and economic problems.

The first problem is, beyond doubt, "where to begin?" The usual answer is simply that we must begin with the adult male who is apparently not capable at the moment of supporting himself and/or his family. If this is the point of attack upon one major aspect of poverty, then the emphasis must be on programmes of vocational rehabilitation, retraining, job placement, and a general uplifting of the fitness of the disadvantaged males for the participation in the increasingly automated industrial society.

Yet the problem may involve far more than this, in that all of these objectives may fail to be attained because a substantial proportion of men who fall into the poverty band are incapable of benefitting from educational or training programmes which require far more educational preparation and intelligence than most of these persons can command.

In Canada it has been reported that the several levels of government have expended in total more than one billion dollars in an effort to upgrade the skills and capacities of disadvantaged, usually unemployed, men and women. It has also been reported that there is very little evidence of any substantial relatively permanent gains from these expenditures. The difficulty of retraining large numbers of persons in our society who have become practically unemployable, as a result of the disappearance of large numbers of unskilled jobs, has not yet been overcome. Apparently the expenditure of large sums of money would not overcome the very serious disadvantages of this portion of poor people.

The argument has thus been made that if we cannot and do not pay special attention to the situation of disadvantaged adults in their roles as fathers and breadwinners, and mothers and housekeepers, then we must turn towards the possibility of extricating their children from the continuous vicious circle of poverty. Where can we break into this ring?

There are serious differences of opinion among persons who staff community action programmes concerning the appropriate point of attack upon the educational disadvantages of the children of poor or deprived families. There is the school of thought which stresses "cultural deprivation", implying that what is required is not merely better schooling for children but a fundamental change in the climate within the home as a consequence of a radical alteration in the expectation of parents for their children. How this fundamental alteration is to be accomplished in the thinking of parents, with perhaps as little as four or five years of elementary education themselves and a lifetime of fruitless search for employment and housing opportunities, is unexplained.

There is another school which considers that the most appropriate approach would be to strengthen the outlook and expectation of secondary school children, particularly with respect to their future educational and vocational possibilities. Yet the evidence indicates that the children of certain minority groups perform at poorer and poorer levels as they proceed through secondary school and that, even if they graduate, they have less chance of securing employment than children of the majority group who have an incomplete high school education.

This realization of the gross difficulties involved in eliminating poverty within the modern affluent urban industrial society must not lead us to give up hope or to cease the endless process of devising new programmes, creating experiments, and seeking to know more and more about human behaviour, human motivation, and the solutions to these problems. We have come to realize, however, that the mere expenditure of vast amounts of money is not the answer.

CONCLUDING COMMENTS

I do not deny that some Canadians are smug. Some Canadians are also ignorant; some, callous; some, prejudiced; some, unconcerned; some, blinded by hate; some, indeed, exhibit all of these characteristics. What must be emphasized is that these various or combined minorities are not nearly so influential as they were 30

"We must translate concern into realistic programs of assistance".

years ago (in the late years of the depression), or 60 years ago, as Canadian cities expanded rapidly through immigration from Europe and the world blundered into the First World War.

The concerned majority, and in the writer's view this is a fair description of the majority of Canadians, must translate their concern for the well being of those who are unable to participate in the growth and development of our modern society into realistic programmes of assistance.

There are still some among us who feel that the deity, or some Supreme Being or force, will ultimately take care of all these problems and all these people. There is an increasing number of Canadians, however, who, while not believing that God is dead, have the firm conviction that He just does not want to be involved in the human mess that we have created without any transcendental help.

A realistic approach to the problems of poverty in our modern society must be based upon the realization that there is no magic solution and no immediate solution. It is perfectly clear that we must find the means to break into the cycle of poverty which afflicts one generation after another within the same group of families. It is equally clear that this can only be done through the development of some new programmes whereby children are motivated to escape from the situation in which their grandparents and their parents have become involved. Although no one knows at the moment how this can be done, it would be utterly irresponsible to cease the process of social innovation on the grounds that it cannot be done. At the same time, some method must be found to motivate adults, heads of families, and the parents of children to break out of this circle of inadequate housing, inadequate parenthood, children who are inadequately educated, inadequately employed, and so on.

Finally, it is clear that new methods must be devised to motivate entire communities of people – urban neighbourhoods where blighted residential accommodation and poor planning go hand in hand with apathetic lives, and entire regions which we consider to be the underdeveloped areas in our nation – to make the fundamental decision as to whether they will leave these regions, with appropriate assistance, and seek to develop new lives elsewhere, or change their traditional social and economic habits in an effort to upgrade the entire region.

All of these are fairly easy words and sentences to devise; all of these solutions are extremely difficult to develop. Unless we have the conviction, however, that within the most affluent nations in this world we can develop systems of production and distribution in which every citizen participates appropriately, then there can be very little hope that we can convince the much greater numbers of people within underdeveloped nations that we have the answers to any of their problems.

Definitely **NOT** for Publication!

WE'VE GOT a guessing contest going in National Office. It's about you.

The pessimists among us reckon only 10% of you will take the trouble to complete and return CPAC's Membership Survey Questionnaire. Even the optimists don't go any higher than 50%. Why not pleasantly surprise us all and, much more to the point, give National Council the data needed to make this a really worthwhile research project?

If by any chance you did not receive your copy of the questionnaire, with a stamped return envelope, please request one immediately from CPAC National Office, 425 Gloucester St., Ottawa 4, Ont. We hope to have your replies back and ready for tabulation by June 30.

Naturally, we're particularly anxious to obtain your candid comments on the REVIEW. Question No. 9 of the questionnaire invites your reaction to this quarterly magazine and we hope you'll give us constructive criticism.

As the official publication of the Community Planning Association of Canada, the REVIEW attempts to:

(a) Inform readers of the objectives, methods and processes of community planning.
(b) Explain the intent and effect of new federal government rules and regulations of interest to planners.
(c) Stimulate public participation in planning programs.
(d) Provide a forum for readers' views and suggested improvements in current planning practices.
(e) Present news of division and branch activities.
(f) Promote increased public acceptance of and membership in CPAC.

As an individual member of this Association, what are your suggestions for improving editorial policy and implementation? In other words, how can we make this communication tool more effective?

Let's hear from you soon. A.T.P.

A community development programme, whether in an urban or a rural environment, is an investment in people. Like any investment, its ultimate success depends upon a clear enunciation of the programme's goals, assessment of available resources and allocation of funds.

Once the overall social and economic objectives have been defined, methods of achieving them must be analysed and prescribed. This article describes a logical approach to the problems of resource allocation, based on Linear Programming—a mathematical technique long used in business and industry. While the following deals with a hypothetical rural development programme, the context is general.

ANALYTICAL APPROACH TO DEVELOPMENT

by A. B. HOWELL

Senior Project Officer, Operations Research Division,
Bureau of Management Consulting Services,
Public Service Commission of Canada.

WELFARE SUPPORT as an equalizer of income, and of associated educational and social services and opportunities is a respectable economic principle (Galbraith – "The Affluent Society") but to be of benefit to society it should be applied in the context of a community that is, through its average income, viable.

When whole regions or sectors of a country are depressed economically, in contrast with the country as a whole, the "benefit" of welfare becomes simple subsistence, with little hope of change. A member of a welfare community can hardly find a neighbor better off than himself; his will to work subsides; and welfare can become a way of life, perpetuated in his children.

The aspirations of Rural Development are to break this impasse by the successive steps of

(a) providing education for the children
(b) providing adequate social services for the community
(c) developing the resources of the region (skills, land, etc.)

with the ultimate goal of a viable community, able to initiate its own further development; and whose population increases, in excess of realizable local resource exploitation, will have the ambition to move to richer areas of the country, and will be able to compete for work opportunities when they get there.

The philosophy is clear; the problem of implementing it presents many difficulties. The affected population may have become indifferent to improvement, they may resist learning new occupations, they may have become so acclimatized to a life based on welfare that their initiative is low. These elements of difficulty present a high inertia to a programme of change, and complicate its implementation.

Another set of problems more or less distinct from the sociological ones are economic in nature. They involve deciding

(a) The total amount of development funds that can be usefully absorbed in a region
(b) The proportions of the total funds that should be allotted to social benefit facilities and resource development
(c) The distribution of resource development funds that will provide the greatest economic returns.

The first set of problems must be solved to make a development programme possible. The second set of problems must be solved to ensure that a real and significant gain in viability is obtained providing an acceptable sociological environment has been established. If the second set of problems is not solved adequately, the resource development programme has the danger of subsiding into just another exercise in welfare, and confirming the innate scepticism of the population about the effectiveness of outside planners.

An analytic method of dealing with problems of the second type is outlined hereunder.

DEVELOPMENT FUNDING

Two rules for development funding are required at the outset. Both are ideals and may, in application, suffer some modification.

Rule 1: The *intent* of a development programme is to attain viability within the terms of that programme.

Viability is defined as the ability to pay for adequate social benefits, with the economic vitality to keep pace with the country. The costs of social benefits undertaken by a viable community include construction and

maintenance of schools, hospitals, administrative buildings, roads, sewers, etc. They also include salaries of teachers, policemen, firemen, administrators and maintenance personnel, associated with the operations of community functions and services.

Rule 2: Every dollar spent in economic development should result in at least a dollar increase in resource capital by the end of the term of the development programme.

The development funding divides into two categories:

(a) that which is allotted to the provision of social benefits that are lacking or are substandard;

(b) that which is allotted to the provision of new and more productive jobs by resource development, and which will form the viable economic base for the community.

These two elements of development funding must be provided in balance for an efficient programme. The ratio of capital value, maintenance and operating costs of social services (S), with the capital value of resources (R), can be calculated through the connecting links of taxation and resource earnings.

Given the required ratio of S/R, and given a reasonably accurate inventory of resources in use, and of potential use in a region, the funding for the two major categories of development costs can be calculated under the Rules established above.

PROGRAMME STAGING

Even with the most careful calculations, the prospective development programme must carry elements of uncertainty: the data on which the calculations were based may be incomplete; some economic influences may have to be assumed; and, even if correct initially, these may change in the future.

To gain assurance against over-commitment, and an unbalanced allocation of funds, the programme should be staged in two phases.

Phase 1 Reduce the first calculated value of development associated costs and transportation and training by 25 to 30 per cent, and restrict initial development fund allocation planning to this limit.

Phase 2 As the plan of Phase 1 forms and consolidates, and as information on realizable potential improves, the ceiling restriction fixed for Phase 1 of the programme can be progressively lifted to its true practicable limit.

Phase 1 of the programme, funded for 70 to 75 per cent of assessed unrealized resource potential and associated transportation and training costs, allows a choice of development paths. All avenues of resource development cannot offer the same prospects of return over the same range of development. It is necessary to have a methodology or technique by which an optimum balance of effort in all elements of resource development can be made.

A highly useful technique of optimizing allocation of funds among a range of choices is Linear Programming. Before demonstrating the application of Linear Programming to the present problem, it will be useful to provide a brief description of how Linear Programming works.

LINEAR PROGRAMMING TECHNIQUE

Linear Programming is a technique of selecting a best objective value, lying within a solution space that is defined by boundaries fixed by a set (or sets) of constraints. This is not as complicated as it may sound.

The objective is a mathematical statement of what is desired.

The constraints are mathematical statements of limitations beyond which, or outside of which, an objective (however desirable) is not permitted or is not feasible.

As the name implies the technique has a restriction in use, and that is the constraints must be *linear* in form.

The idea of a "solution space" should first be made clear. Consider the two linear relationships

$X + 2Y = 10$ X and Y positive $(X \geq 0, Y \geq 0)$

$2X + Y = 10$

There is one particular value of X and Y that will satisfy these two equations and that is at the *point*

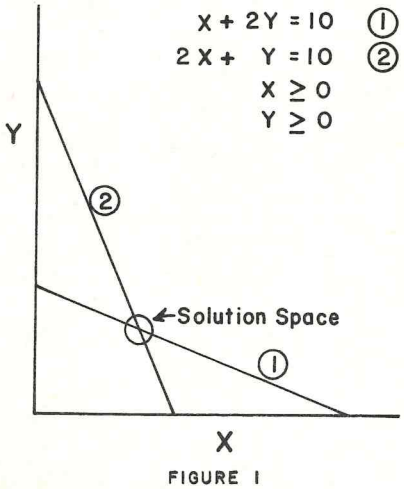


FIGURE 1

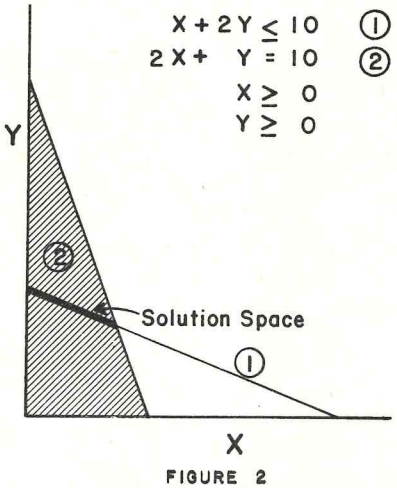


FIGURE 2

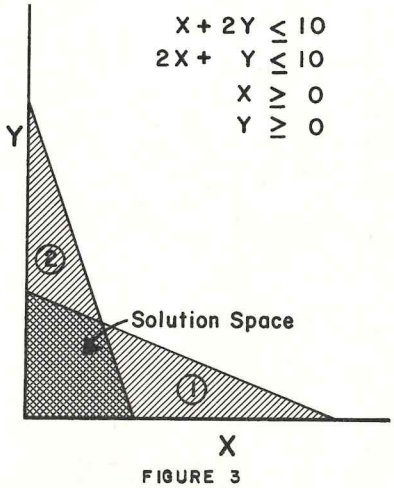


FIGURE 3

$X = Y = 3\frac{1}{3}$. The solution *space* for these two equations then is a *point* (figure 1).

If on the other hand the "equals" sign was replaced by the "equal to or less than" sign ($\leq$) in one of the statements, the solution space would be a line segment as in figure 2.

If both equations involved equality or less relationships ($\leq$) the solution space would be an area (figure 3).

Accepting these equations as expressions of constraint, it can be seen there is *no flexibility of choice* of solution where the solution space is a point. There is a range of choice when an "equal or less than" relationship is involved, and the more statements of "equal or less than" the greater is the range of choice. Constraint equations for Linear Programming may have equations of equality, but "equal to or less than" or "equal to or greater than" relationships, must also be involved, and all such statements should be *linear* or "a straight line" in their relationships, although as will be shown, a non-linear constraint can be adapted under certain circumstances so that feasible solutions can be obtained.

The objective function is simply a statement of where within a solution space (or volume, or segment of line) the objective value is desired. Some simple statement of objective might be

1. the largest possible value of X
2. the largest possible value of Y
3. the largest possible sum of X and Y

Using the "constraints" of figure 3, and the objective function

Maximize $X + Y = Z$ (Z = objective function)

which is statement 3 above, the solution would appear as $X = Y = 3\frac{1}{3}$, $Z = 6\frac{2}{3}$

It can be seen by figure 4 that the maximum sum of $X + Y$ must be at the point marked A, and in this particular case is equal to $6\frac{2}{3}$.

The constraints and the objective functions are the essentials of a problem statement in Linear Programming.

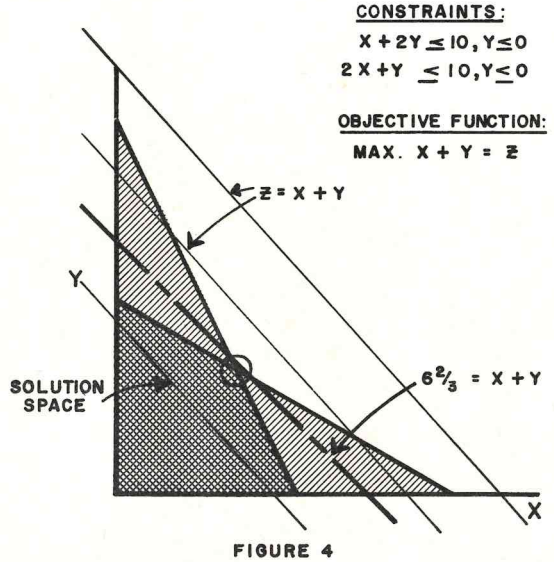


FIGURE 4

The question now is how well does the problem of allotting development funds to contending prospects of development in a region conform to a Linear Programming problem.

RESOURCE ALLOCATION BY LINEAR PROGRAMMING

There are a number of aspects of expense within a development programme. For simplicity and to permit a graphical solution only two categories of expense will be considered.

(1) Subsidy
(2) Training

and only two classes of activity

(1) Farming
(2) Sheep ranching

Subsidy may be required in a variety of forms. If the resource potential were industry, subsidy might be spent in providing cheap industrial land, for example. In farming, it might be spent clearing brush-land or draining swamps. In sheep ranching, it might be spent in fencing and preparing grazing land, or purchasing breeding stock and so on.

Training costs are involved in preparing the population either for more efficient production in current occupations, or preparing them for new jobs.

Now an overall objective must be defined. There are a number of individual targets:

better education
improved standard of living
improved income
increased social welfare
broadened career prospects
increased employment
and so on.

Each element represents a worth-while purpose, but none of them is comprehensive enough in itself to serve as a programme objective. It would seem that

(a) if employment were to be increased to the highest possible level, and
(b) if income per employed were to be increased to the highest possible value,

all, or a great majority of the things desired of a development programme, would be realized. However, the statements are not compatible; it is not possible to obtain a single maximum in both, and a compromise must be accepted.

The overall objective of development will then be defined as

"to maximize the Sum of the Products of Income and Employment consistent with a defined standard of viability".

A hypothetical problem is now introduced:

Suppose that under Phase 1 of a programme, development funding is limited to $2,000,000 with two alternative plans of spending:

Plan 1 The money may be spent in any proportion between Training and Subsidy.

Plan 2 Not more than $400,000 of the $2,000,000 may be spent on Training.

Accept the economist decision that the income per

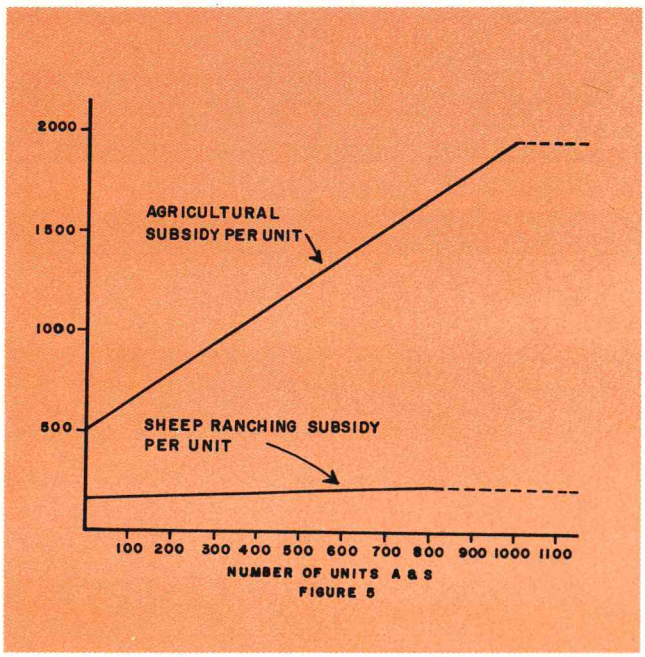


FIGURE 5

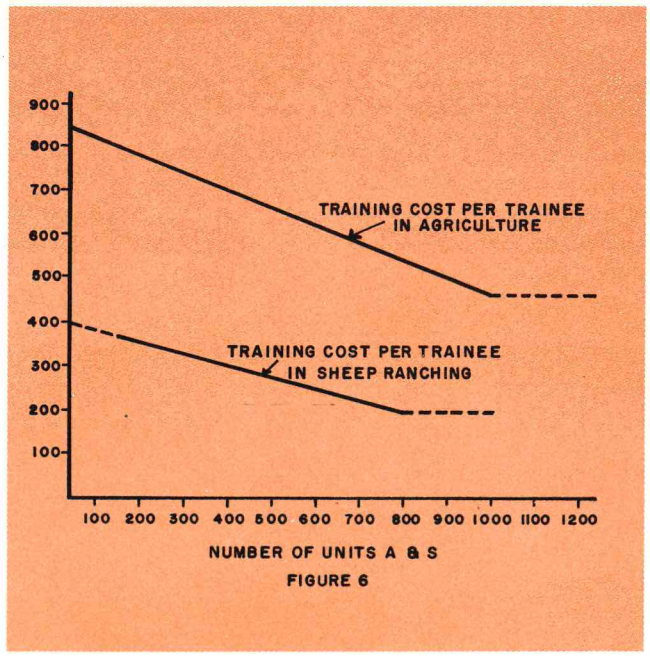


FIGURE 6

worker for viability in the two categories of occupation should be

Farmer between \$2500 and \$3500
Sheep Rancher between \$2200 and \$2700

The present and prospective situations are described in the following table of costs.

Occupation	Present Situation Number	Present Situation Income ($)	Prospective Situation Number	Prospective Situation Income ($)
(S)Sheep	1000	1000	800*	2500
(A)Agriculture	500	1200	1000	3000

Subsidy and Training costs vary with the number of prospective population as shown in figures 5 and 6. The explanation of these variable costs lies in the fact that the cost of training implies some irreducible level of accommodation costs and number of instructors, and the training "overhead" per trainee becomes less with increasing numbers in the numbers being trained. In regard to subsidy, it may be expected that the better and least expensive to develop sectors of the region will be exploited first, and therefore the cost of subsidy per unit of a small number of new farms (or improved farms) will be less than if a larger number of farms are involved.

The net result of these variable costs is that the constraint expression for total subsidy and training costs will not be a *linear* or straight-line relationship, and the solution technique must be adapted to accommodate this circumstance. The adaption is to assume that the subsidy and training constraint expression is in fact linear over a small range of choice of numbers of sheep farms and agricultural units, and to progressively approach the correct solution by *cycling* or *iteration* using progressively improved approximations to the true costs of subsidy and training.

* Note that the economic planners anticipate sheep farms must be *reduced* in number by consolidation to provide a viable income.

SOLUTION UNDER PLAN 1

Assuming a linear relationship, the initial *subsidy* constraint for an assumed 800 sheep farmers and 1000 agricultural units (farms) is (see figures 5 and 6)

$313S + 2000A \leq$ allotment of funds for subsidy

and the *training* constraint on the same assumption is

$200S + 450A \leq$ allotment for training

In that there is no restriction by Plan 1 in the proportions of the total permissible allotment that may be spent on Subsidy and Training, these constraints may be added together and related to the total allotment limit of \$2,000,000

$513S + 2450A \leq 2{,}000{,}000$

The limiting number of sheep ranchers is 800; and the limiting number of farmers is 1000. These represent two numerical constraints. They are written as

$S \leq 800$
$A \leq 1000$

The objective is to maximize the sum of the respective products of Income and Population. Assuming one worker for each sheep farm and agriculture unit, and accepting the median values in the range of required income i.e., \$2500 per sheep ranch, and \$3000 per farm, the objective function takes the form

$Z = 2500S + 3000A$

The equations may now be collected in a complete statement of the problem

Maximize $Z = 2500S + 3000A$
Subject to the constraints

$513S + 2450A \leq 2{,}000{,}000$ (1)
$S \leq 800$ (2)
$A \leq 1000$ (3)
$S \geq 0$, $A \geq 0$ } i.e. S and A are not allowed to be negative

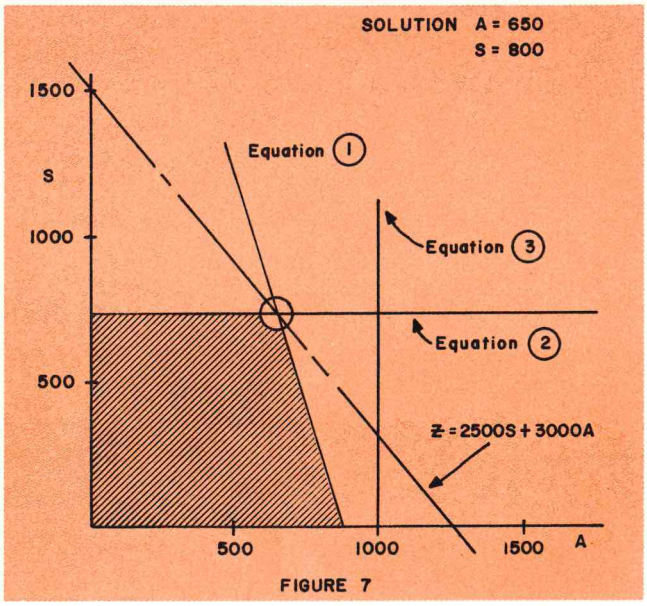


FIGURE 7

The initial solution is shown graphically in figure 7.

The solution using the initial values for costs is

A = 650

S = 800

with a Z value of 39,500,000

As may be seen, the acceptable number of farmers is considerably below the 1000 initially accepted. The subsidy and training costs for agriculture must then be revised. Accepting the value of A = 650 for the second cycle of calculations, the new costs drawn from figures 5 and 6 are

Subsidy for A = $1475 per unit

Training for A = $ 590 per trainee

These revised values lead to the revised constraint equation (1)

$513S + 2065A \leq 2{,}000{,}000$

The second cycle calculation is shown graphically in figure 8.

The solution on the second cycle of calculations is

A = 770

S = 800

Again the discrepancy between the solution value of agricultural units (770) and the value used to calculate relevant subsidy and training costs (650) introduces

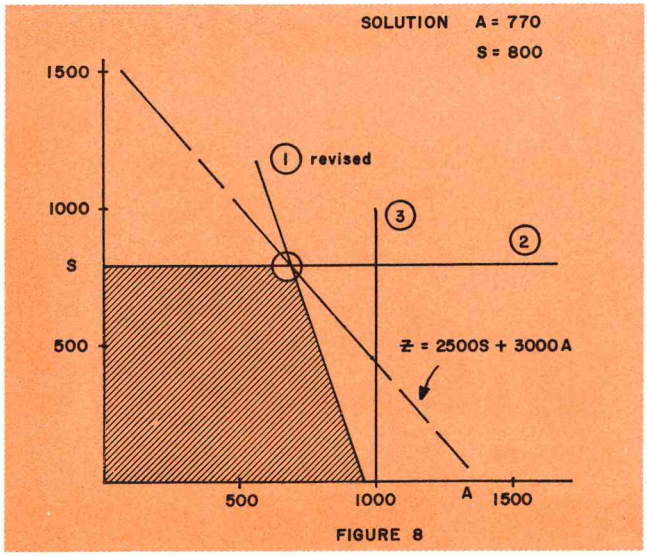


FIGURE 8

significant error, and a third cycle of calculations using costs revised now on the basis of 770 agricultural units must be performed.

The cycles of calculation continue until the solution value for the agriculture units is reasonably close to the value used to calculate costs.

The fourth recalculation cycle uses the value of 725 agricultural units to calculate costs and produces the solution

S = 800

A = 740

Z = 4,220,000

This is close enough for practical purposes (in a precise solution A = 736) and the solution may be accepted as affording an acceptably efficient division of programme funds between Sheep Farming and Agriculture under Plan 1.

SOLUTION UNDER PLAN 2

Plan 2 introduces a complication in that Training funds are limited by policy to $400,000. This means that the subsidy and training cost constraints cannot be added as they were under Plan 1. The problem is to assess the effect of introducing a restrictive policy of this kind. The problem statement contains the restriction in constraint No. 2 below.

Maximize Z = 2500S + 3000A

Subject to the initial constraints of

$313S + 2000A \leq 1{,}600{,}000$ (1)

$200S + 450A \leq 400{,}000$ (2) (policy constraint)

$S \leq 800$ (3)

$A \leq 1000$ (4)

$S \geq 0 \qquad A \geq 0$

The solution is shown graphically in figure 9.

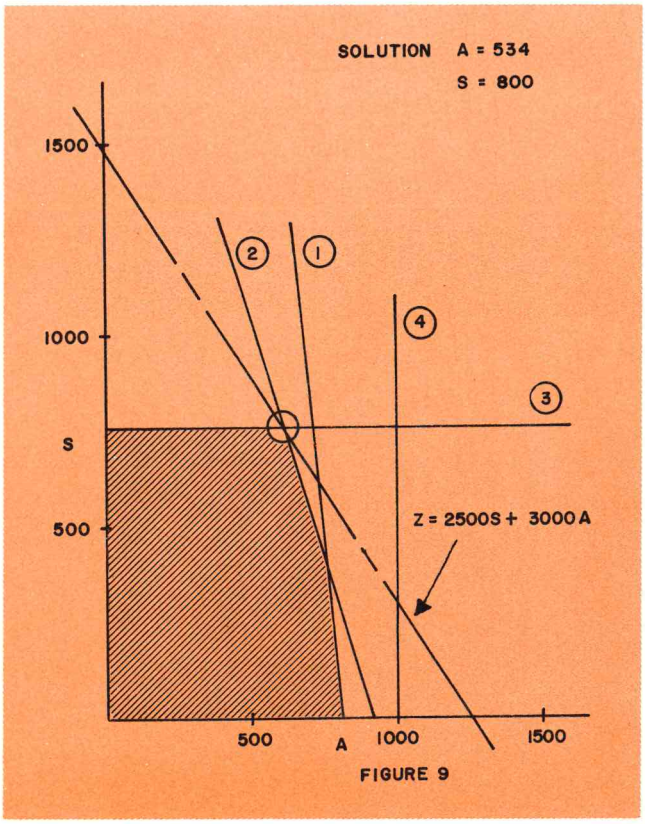


FIGURE 9

The solution by initial calculations is

S = 800

A = 534

Z = 3,602,000

The training limit of $400,000 is spent but the available development funds are underspent by a nominal $532,000*.

A second cycle of calculation is performed using A = 534 to calculate costs, but the situation worsens; the second cycle solution is

S = 800

A = 325

Z = 2,975,000

Again the training costs reach the limit set by policy, but the development funds are now even further underspent (nominally $1,030,000).

The policy restriction on training funds markedly reduces the efficient deployment of development funds, and points the need for a revision of Plan 2.

If Plan 2 were not challenged, the programme would result in providing more farm units than there are trained farmers to occupy them. The monetary difference between what is available for farm development, and what should be spent for a balanced programme of training and development by Plan 2 amounts by precise calculation to a little over $1,264,000. Depending upon how vital training is to effective farming, this difference represents in whole or in part the quantity of waste in a programme based on Plan 2.

* "nominal" in that $532,000 is based on first calculation costs of subsidy and training.

CONCLUSION

The procedure described in this paper is a fair example of the use of simple analytic techniques in calculating an optimum strategy of action where management is faced with a variety and mix of contending prospects. In the examples only two channels of development action (agriculture and sheep-farming) were considered. With the aid of a computer many more variables can be accepted.

The word "optimum" is used here in respect to *quantitative* measures only. It is not suggested that these are all that need be considered in deciding upon a course of action. It is contended, however, that *qualitative* considerations or policies, however basic or fundamental they may be, must be built upon or introduced as modifications to, the soundest and most comprehensive *quantitative* structure it is possible to make. The restriction of training funds under Plan 2 of the examples might be taken as an example of a qualitative restriction introduced in quantitative terms; without means of analysis, the full consequences of the restriction on the overall plan of development could not be anticipated.

It may be objected that analytic procedures are no better than the information data used in them, and that often such data are not available. This is perfectly true. But the complaint is hardly particular; it must equally apply to any form of planning. The only substitute for knowledge is instinct or a crystal ball, and one is hardly better than the other as a basis for investment.

A rural development program, as described above, is an investment in people. Unfortunately, every year less Canadians live like those pictured below as the trend to urbanization accelerates. (NFB Photos)

Réformes proposées dans le domaine de l'urbanisme et de la planification municipale

Par G. J. WESLEY, F.R.I.
Vice-président,
Section régionale de Montréal,
L'Association canadienne d'urbanisme

AU CANADA, l'urbanisme et la planification municipale n'en sont encore qu'au stade de l'enfance. Pour cette raison, trois secteurs de la juridiction municipale doivent surtout être l'objet de nos préoccupations.

(1) Nous devons nous assurer que les droits légaux de toutes les parties en cause sont intégralement respectés dans les règlements de zonage et de construction.

(2) On ne devrait pas concevoir les règlements de zonage et de construction comme un code de droit à suivre aveuglément, sinon on s'expose à des erreurs irrémédiables.

(3) Aucun conseil municipal ou conseiller juridique ne devrait prendre de décisions hâtives et sévères qui éventuellement se traduisent par des procédures judiciaires coûteuses et longues.

En somme, les règlements de zonage et de construction devraient plutôt servir de guide d'urbanisme pour énoncer, appliquer et interpréter les principes de la planification urbaine.

A mon avis, un urbanisme "progressif" doit faire l'objet d'un dialogue et d'un raisonnement entre toutes les parties en cause. C'est dans cette optique que l'année dernière, trois jugements ont été rendus, qui ne devraient pas passer sous silence.

Un juge à empêché qu'un règlement de zonage soit modifié dans une municipalité parce que les délais stipulés pour un avis public n'ont pas été respectés. Un agent d'immeuble a obtenu un jugement contre une municipalité et une compagnie de construction a réussi à obtenir un "mandamus" contre une autre municipalité. Dans les trois cas, les décisions des juges ont permis l'émission d'un permis de construction.

Les principes de droit impliqués dans ces jugements sont d'une importance primordiale dans l'optique de cette discussion sur les pouvoirs de l'administration municipale. Ces principes se résument dans une déclaration du juge Edouard Martel: "Des pressions de la part de comités de citoyens ne justifient pas l'attitude d'une ville qui ne respecte pas la loi."

Le juge Spence, dans un autre jugement a établi trois importantes considérations sur les changements de règlements municipaux de zonage et de construction.

—Il doit y avoir intention évidente d'une municipalité d'imposer des restrictions ou de changer un règlement de zonage avant qu'une demande de permis ait été faite.

—Le conseil municipal doit agir de bonne foi.

—Le conseil doit procéder avec diligence.

Dans une société moderne en voie de transformation, on ne peut nier le rôle des commissions locales d'urbanisme et des divers groupes civiques qui toutefois, ne sauraient avoir un statut légal susceptible de leur permettre de transgresser ou de manipuler la loi. Leur rôle est d'émettre des suggestions et des recommandations, non de supplanter la loi et d'exercer un pouvoir exécutif qui limiterait les droits des citoyens en faveur de groupes faciles à manœuvrer.

De fait, en rendant leur verdict, les magistrats ont tenu compte des nombreuses responsabilités incombant à l'administration municipale actuelle.

Droit à un titre "clair"

Un titre clair et net est un droit essentiel de la propriété immobilière. A mon avis, toute restriction démesurée, telle une clause de non-concurrence ou des règlements de zonage trop rigides et restrictifs inscrits dans un acte de vente, aliène le véritable droit de propriété.

A ce véritable droit de propriété s'ajoute celui de la meilleure exploitation possible. Si un terrain situé dans une zone commerciale est acquis au prix habituel de cette zone, nul n'a le droit de restreindre ses possibilités d'exploitation dans le cadre des règlements établis ou de changer le zonage, sans offrir au propriétaire une compensation équitable.

Application et interprétation

Par ailleurs, si les règlements de zonage sont établis judicieusement et interprétés équitablement, ils ne peuvent avoir qu'un effet salutaire sur la valeur des terrains et l'exploitation d'un secteur.

En cas de litige, toutes les parties en cause devraient éviter des procédures judiciaires, aussi longues qu'onéreuses, et s'assurer les services de leurs conseillers juridiques pour régler ledit litige par voie de négociations.

Rôle de la planification urbaine

Les jugements que nous avons cités font également ressortir le rôle important que joue le pouvoir exécutif du service de planification urbaine. En général, on s'accorde pour reconnaître la nécessité d'une certaine planification pour répondre aux exigences sociales et économiques actuelles. Si la planification indicative risque de rester infructueuse et inutile, une planification directive peut donner aux différents gouvernements les pouvoirs susceptibles de modifier le système administratif actuel.

Pour assurer un équilibre salutaire et viable, le programme de planification devrait comporter des recommandations impérieuses, mais dans le cadre de la législation actuelle afin de pouvoir être débattues en justice, en cas de litige entre les parties.

Il n'existe aucune législation avec juridiction dans le domaine de la planification urbaine, qui puisse outrepasser les règlements de zonage et de construction concernant l'usage et l'exploitation de la propriété privée.

(Suite page 26)

"Where's the Fire?"

No fire! They're just rushing to mail their advance registrations for CPAC's

1968 NATIONAL PLANNING CONFERENCE

Theme: "Building Human Values into the Community"

EMPRESS HOTEL, VICTORIA, B.C., OCTOBER 6-9

Conference Chairman William Kerr, B.C. divisional chairman, Mrs. Elsie Shepherd and her co-ordinating committee members from the host Capital Region Branch are all working towards making this an outstanding CPAC experience. (They hope you'll follow the lead of the fellows pictured and register early.)

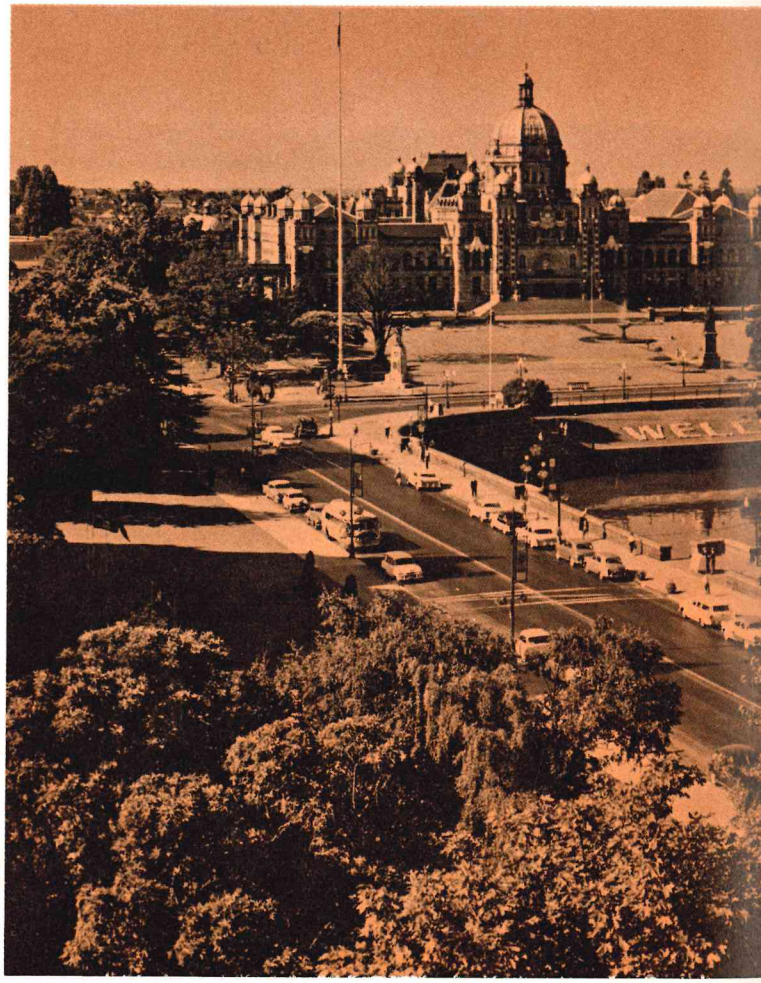
Preliminary program and advance registration forms are being mailed to all CPAC members in June. Additional forms will be available from any CPAC Divisional Office after 1 July 1968.

Emphasis will definitely be on audience participation in developing the conference theme, with several well-known authorities in their respective fields leading and guiding the discussions. Victoria university and high school students will join delegates in one of the program's highlight sessions.

Accommodation in the Empress Hotel, conference headquarters, is limited and will be allocated on a first-come, first-served basis. Additional rooms have been reserved in adjacent hotels. All reservations must be made through CPAC National Office, 425 Gloucester St., Ottawa 4, Ont. Please do not reserve directly with the hotel.

Registration fees are $20 for CPAC members, $25 for non-members, $10 for wives accompanying delegates (for whom a special ladies' program is being arranged).

B.C.'s Parliament Buildings and Victoria's Inner Harbour, as seen from the Empress Hotel. (CMHC Photo)



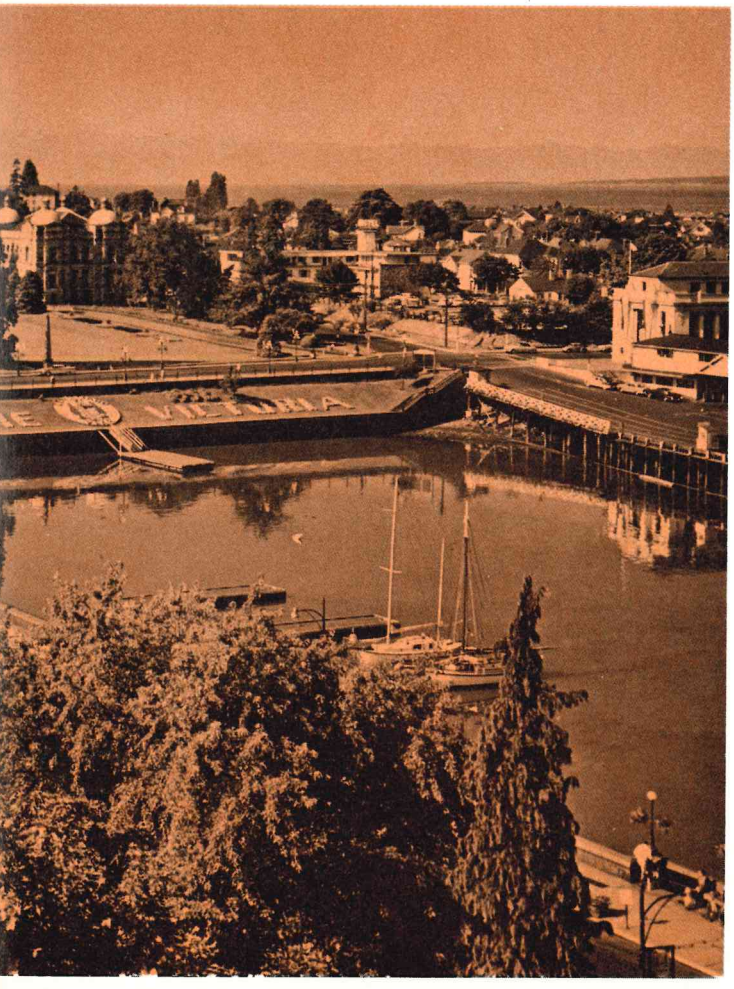
"Où est l'incendie?"

Pas d'incendie! Ils s'empressent de faire parvenir leur enregistrement pour la convention de l'ACU.

CONFÉRENCE NATIONALE D'URBANISME DE 1968

Thème: "L'Épanouissement de Valeurs Humaines dans la Communauté"

HOTEL EMPRESS, VICTORIA, C.B., 6-9 OCTOBRE



M. William Kerr, président de la conférence et président de la Division de la Colombie Britannique, ainsi que Mme. Elsie Shepherd et tous les membres de son comité de coordination de la Section hôte de la région de la capitale sont au travail afin d'assurer que cette conférence de l'ACU sera une expérience inoubliable pour tous. (Ils espèrent que vous suivrez l'exemple des gens sur la photo et vous vous inscrirez le plus tôt possible.)

Le programme préliminaire et les formules d'enregistrement au préalable seront envoyés à tous les membres de l'ACU en juin. D'autres formules seront disponibles dans tous les bureaux de Division après le premier juillet 1968.

La participation de l'audience sera définitivement accentuée dans le développement du thème de la conférence, et plusieurs autorités bien connues pour leur spécialité respective seront présents afin de conduire et guider les discussions. Des étudiants universitaires et des écoles supérieures de Victoria se joindront aux délégués dans une des sessions importantes du programme.

L'accommodation à l'Hôtel Empress, quartier général de la conférence, est limitée et sera réservée par ordre de demande. Des chambres additionnelles seront réservées dans des hôtels avoisinants. Toute réservation doit se faire par l'entremise du Bureau National de l'ACU, 425 rue Gloucester, Ottawa 4, Ontario. N'entreprenez pas de faire vos réservations directement à l'hôtel.

Les frais d'inscription sont $20 pour les membres de l'ACU, $25 pour les non-membres et $10 pour les épouses accompagnant les délégués, pour lesquelles un programme spécial sera organisé.